

CLAIM

Sub ~~2~~ 1. An image encoding device which encodes images for each object, comprising:

encoding means for encoding said images on the basis of predetermined object display speed information to obtain encoded image signal; and
multiplexing means for multiplexing said predetermined object display speed information onto said encoded image signal.

2. The image encoding device of claim 1, wherein said multiplexing means multiplexes said object display speed information onto said encoded image signal for each object.

3. The image encoding device of claim 1, wherein said multiplexing means multiplexes onto said encoded image signal, as said object display speed information, information indicating whether the object display speed is fixed or variable.

4. The image encoding device of claim 1, wherein said multiplexing means multiplexes onto said encoded image signal, as said object display speed information, a value indicating the object display speed.

5. The image encoding device of claim 4, wherein said object display speed information includes a value indicating an inherent fixed object display speed and a value indicating an arbitrary fixed object display speed.

Sub A1 6. An image decoding device which decodes an encoded bit stream formed by encoding images for each object, comprising: display speed information decoding means for decoding object display speed information from said encoded bit stream; and
control means for controlling the reconstruction of said encoded images encoded for each object, based on said decoded object display speed information.

7. The image decoding device of claim 6, wherein said display speed information decoding means decodes said object display speed information

for each object.

8. The image decoding device of claim 6, wherein: said display speed information decoding means decodes said object display speed information from said encoded bit stream for each object; and said control means controls said image reconstruction, depending upon whether the object display speed indicated by said decoded object display speed information is a fixed or variable speed.

9. The image decoding device of claim 8, wherein: said display speed information decoding means decodes said object display speed information from said encoded bit stream for each object; and said control means controls said image reconstruction by specifying the display time of each image on the basis of the value of said object display speed in said decoded object display speed information when said object display speed information decoded by said display speed information decoding means indicates a fixed speed, and on the basis of display time information multiplexed for each image when said decoded object display speed information indicates a variable speed.

10. The image decoding device of claim 6, wherein: said display speed information decoding means decodes said object display speed information from said encoded bit stream for each object; and said control means controls said image reconstruction by specifying the display time of each object on the basis of said object display speed information when said object display speed information decoded by said display speed information decoding means indicates a fixed speed and said fixed speed is a value indicated by said object display speed information, on the basis of display time information multiplexed for each image when said decoded object display speed information indicates a fixed speed and said fixed speed is not indicated as a specific value, and on the basis of said display time information multiplexed for each image when said decoded object display speed information indicates a variable speed.

11. The image decoding device of claim 6, wherein said control means is provided with: decoding time specifying means for specifying object

decoding time on the basis of the decoded object display speed information) decoded by the display speed information decoding means and object display speed information preset in the decoding device; and decoding means for performing object decoding on the basis of the object decoding time specified by said decoding time specifying means.

12. An image encoding device which encodes an image for each object, comprising:

absolute time multiplexing means for multiplexing, for each object, information indicating absolute time for said object onto said encoded image signal.

13. An image decoding device which decodes an encoded bit stream formed by encoding images for each object, comprising: absolute time analysis means for analyzing, for each object, information indicating absolute time of said each object; and

control means for controlling the reconstruction of said encoded images on the basis of said absolute time information analyzed by said absolute time analysis means.

14. An image encoding device which encodes an image for each object, comprising:

time information encoding means for encoding, as information defining the display time of an image at each time for each object, first time information defining the time interval between a reference time and said display time and second time information defining said display time with higher accuracy than by said first time information, and an image corresponding to each time;

wherein when the bit length of said first time information is longer than a predetermined set value, said time information encoding means repeats a bit shift of said set value until said bit length becomes shorter than said set value and keeps count of bit shifts and encodes said count and a bit string obtained by the repeated bit shifts.

15. An image encoding device which encodes images for each object, comprising:

time information encoding means for encoding, as information defining the display time of an image at each time for each object, first time information defining the time interval between a reference time and said display time and second time information defining said display time with higher accuracy than by said first time information, and an image corresponding to each time;

wherein said time information encoding means includes first time information holding means for holding said first time information of an image encoded at immediately preceding time and calculates a bit string of the difference between said first time information of an image to be encoded and said first time information of said image at said immediately preceding time available from said first time information holding means and then encodes said difference bit string as said first time information of said image to be encoded.

16. An image decoding device which decodes a bit stream formed by encoding images for each object, comprising:

time information decoding means for decoding, as information defining the display time of an image at each time for each object, first time information defining the time interval between a reference time and said display time and second time information defining said display time with higher accuracy than by said first time information and an image corresponding to each time; and

decoding and synthesizing means for decoding input encoded image signals for each object and for synthesizing said decoded image signals,

wherein said time information decoding means decodes, as encoded data of said first time information, a count of bit shifts of said first time information and a bit string obtained by repeated bit shifts and decodes said first time information by adding a code of a length of a predetermined set value to said bit string by said count of bit shifts, and said decoding and synthesizing means synthesizes a decoded image signal on the basis of said first and second time information decoded by said time information decoding means.

17. An image decoding device which decodes a bit stream formed by encoding an image for each object, comprising:

time information decoding means for decoding, as information defining the

display time of an image at each time in an image sequence, first time information defining the time interval between a reference time and said display time and second time information defining said display time with higher accuracy than by said first time information and an image corresponding to each time; and

decoding and synthesizing means for decoding input encoded image signals for each object and for synthesizing said decoded image signals;

wherein said time information decoding means includes first time information holding means for holding said first time information of an image encoded at immediately preceding time and decodes said first time information of an image to be decoded after adding a bit string decoded as said first time information of said image to be decoded with said first time information of the immediately previously decoded image available from said first time information holding means, and said decoding and synthesizing means synthesizes said decoded image signals on the basis of said first and second time information decoded by said time information decoding means.

18. An image encoding method, comprising the steps of: generating an encoded image signal by encoding images for each object on the basis of predetermined object display speed information; and outputting said encoded image signal and said object display speed information after multiplexing them.

19. An image decoding method, comprising the steps of: decoding an object display speed information from an encoded bit stream formed by encoding images for each object; and decoding said encoded images by controlling the reconstruction thereof for each object on the basis of said decoded object display speed information.

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